



OUTA

ORGANISATION UNDOING TAX ABUSE

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Public Narrative Report on the status of the Lesotho Highlands Water Project Phase II

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CONTENTS

Abbreviations and acronyms	3
1. Executive summary	4
2. Introduction	8
2.1. Purpose and main elements of discussion document	8
2.2. Institutional and governance structures.....	8
2.2.1. The Department of Water (South Africa)	8
2.2.2. Ministry of Energy, Meteorology and Water Affairs (Lesotho)	9
2.2.3. The Lesotho Highlands Water Commission (LHWC).....	9
2.2.4. The Lesotho Highlands Development Authority (LHDA).....	10
2.2.5. The Trans-Caledon Tunnel Authority (TCTA)	11
3. Corruption during LHWP Phase I	12
3.1. Construction of Phases IA and IB	12
3.2. Corruption trials following Phase I.....	14
4. Treaty on LHWP and Agreement on Phase II of the LHWP.....	17
4.1. Signing of the Treaty (1986) and Protocols.....	17
4.2. Main contents of the Agreement (2011)	18
4.3. LHWP II project description	18
4.4. Procurement and anti-corruption measures	20
4.5. Technical Sub-Committee of the LHDA.....	21
4.6. The Project Management Unit of the LHDA	21
5. Tenders and contracts in the implementation of LHWP II.....	23
5.1. Contracts for the implementation of LHWP II	23
5.2. Delays in the awarding of critical contracts.....	25
5.3. Implications of the delays on LHWP II	26
6. Findings and recommendations.....	28
6.1. Positive findings	28
6.1.1. Substantial progress since 2017.....	28
6.1.2. Legal framework in place to prevent corruption.....	28
6.1.3. LHDA board up and running with credible chairperson	28
6.1.4. Technical sub-committee functioning	28
6.1.5. PMU in place staffed with well-qualified and skilled professionals	28
6.1.6. Contracts to date awarded free of corruption	29

6.1.7. Nomvula Mokonyane’s attempts to have engineering contracts awarded to politically connected companies failed	30
6.1.8. No role for Masupha Sole in LHWP II.....	31
6.2. Negative findings including concerns and risks	32
6.2.1. LHWP II is of critical importance but is at least seven years late.....	32
6.2.2. Sub-optimal operation of LHWP increases risk of water shortages	33
6.2.3. Lesotho water for Botswana.....	35
6.2.4. PMU without delegations to manage as required.....	36
6.2.5. Cost escalation expected due to delays.....	37
6.2.6. Higher royalty payments due from 2019 and no benefit to SA.....	37
6.2.7. The elephant in the room – a Department of Water without technical capacity at top management level	38
6.3. Recommendations	39
6.3.1. The Minister of Water must comply with South African legislation and appoint experienced professional engineers in the Department of Water’s top management structure	39
6.3.2. Honour the Treaty, Protocol VI and Agreement for LHWP II.....	39
6.3.3. Utilise the expertise and skills of the Project Management Unit	39
6.3.4. Change the operating rules to improve water security for South Africa.....	40
6.3.5. Civil Society participation in the Vaal River Reconciliation Strategy Steering Committee .	40
6.3.6. Challenge the planned project to sell Lesotho water to Botswana.....	40
6.4. Concluding Note.....	40
7. References	41

The cover shows Katse Dam almost empty on 13 September 2019 (photo via Twitter)

Abbreviations and acronyms

AfDB – African Development Bank

DWS – Department of Water and Sanitation South Africa (previously DWA and DWAF)

Eoi – Expression of interest

JV – Joint Venture

LBWT Project – Lesotho-Botswana Water Transfer Project

LBWSRS – Large Bulk Water Supply Reconciliation Strategy

LHDA – Lesotho Highlands Development Authority

LHWC – Lesotho Highlands Water Commission

LHWP I – Phase one of the Lesotho Highlands Water Project

LHWP II – Phase two of the Lesotho Highlands Water Project

MSKC – Metsi Senqu-Khubela Consultants

NAY – Nominal Annual Yield

NEPAD – New Initiative for African Development

NERSA – National Energy Regulator of South Africa

NWA-National Water Act

ORASECOM – Orange-Senqu River Commission

OUTA – Organisation Undoing Tax Abuse

PMU – Project Management Unit

PWC- Price Waterhouse Coopers

RFP – Request for Proposal

RSA – Republic of South Africa

SAICE – South African Institute of Civil Engineers

TSC – Technical Sub-Committee

1. Executive summary

Note

This document will reflect on the current position and review progress and achievements since the previous report of 2017. It will focus on new concerns and risks that have since surfaced. However, the backdrop sections of the report have been retained so that it can be read as a stand-alone document without unnecessary reference to the 2017 report.

Agreements and LHWP Phase I: The Government of the Kingdom of Lesotho and the Government of the Republic of South Africa concluded a Treaty (Treaty, 1986) and agreement on the Lesotho Highlands Water Project (LHWP) on 24 October 1986. The original treaty was subsequently amended through several protocols. Protocol VI is of special importance as it provides for certain key measures to prevent corruption. Phase I (LHWP I) has been successfully completed with the construction of the massive Katse and Mohale dams and the water transfer and delivery tunnels to South Africa. The first water to Gauteng was delivered in January 1998. By the end of April 2019, a total of 15 240 million cubic metres of water had been supplied to South Africa through Phase I with the income to Lesotho so generated totalling R9.711 billion (Royalties, 2019).

The implementation of Phase I was followed by five corruption trials that drew international and local media attention because government officials receiving the bribes went on trial as well as several well-known international private-sector companies providing the bribing funds. The Lesotho Highlands Development Authority (LHDA) compiled an anti-corruption policy pursuant to Article 16 of the Agreement on Phase II that was adopted in 2011 and states that *“All persons or entities involved in the project must observe the highest standards of ethics”* and *“the Project Authority shall take all appropriate measures to combat corruption in all its forms”* (LHDA, 2011).

Responsibility of the Minister towards Gauteng: The Minister of Water¹ and her department have a legislative duty to ensure that the province of Gauteng will not run into water shortages. Her responsibility as the public trustee of the nation’s water resources is clearly stipulated in the National Water Act (Act 36 of 1998) (RSA, 1998). Article 3(1) of the Act states that she *“must ensure that water is protected, used, developed, conserved, managed and controlled in a sustainable and equitable manner, for the benefit of all persons ...”* (RSA, 1998). She is also the regulator of water services in terms of the Water Services Act (Act 108 of 1997) (RSA, 1997). Planning is fundamental in the execution of these duties and therefore the Department of Water had identified several projects to

¹ This South African Ministry and its department have been through various name changes over the years. For simplicity, we refer to them throughout this document as the Ministry of Water and the Department of Water. The Department has been known as: Department of Water and Forestry; Department of Water Affairs; Department of Water and Sanitation.

The Ministry and the Ministers since May 1994 were: Ministry of Water Affairs and Forestry (Kader Asmal, May 1994 – June 1999; Ronnie Kasrils, June 1999 – April 2004; Buyelwa Sonjica, April 2004 – May 2006; Lindiwe Hendricks, May 2006 – April 2009); Ministry of Water and Environmental Affairs (Buyelwa Sonjica, May 2009 – October 2010; Edna Molewa, October 2010 – April 2014); Ministry of Water and Sanitation (Nomvula Mokonyane, May 2009 – April 2014; Gugile Nkwinti, May 2014 – April 2019); Ministry of Human Settlements, Water and Sanitation (Lindiwe Sisulu, since May 2019).

augment water supply to Gauteng. Feasibility studies had subsequently shown that the most viable option would be the implementation of Phase II of the LHWP (LHWP II).

Progress on Phase II of LHWP: The Agreement on the LHWP II was signed on 11 August 2011 between the governments of Lesotho and South Africa (LHDA, 2011). LHWP II will further augment the delivery of water to South Africa by means of a planned dam at Polihali and a new transfer tunnel that will connect the reservoir at Polihali with the existing Katse Dam. At the signing of the Agreement the original intention was that water delivery from LHWP II will commence in 2019. Now in 2019, eight years after the signing of the Agreement on LHWP II, the LHDA's latest Master Programme (version 12 dated 26 July 2019 on the LHDA website) indicates that Polihali Dam will be completed only in August 2025 and the Polihali-to-Katse transfer tunnel in February 2026 (LHDA, 2019). This is on condition that the two main construction contracts (for Polihali Dam and the Polihali-to-Katse transfer tunnel) will be awarded on time, that there is no further political interference from either Lesotho or South Africa and that construction proceeds as planned. Based on the current progress in the awarding of tenders and applying realistic timelines for such a complex project the delivery date of early 2026 may still be optimistic. ***It is the personal opinion of the author of this report that the first water will not be delivered before late 2026 or early 2027. This will be eight years later than planned.***

Positive findings and progress

- According to the Master Programme version 12, there are a minimum of 42 contracts to be concluded during the implementation. Substantial progress was made as **25 additional contracts were awarded since the previous report in 2017, bringing this to a total of 36 contracts awarded**. These cover a wide range including professional services and access roads to construction sites.
- The **legal framework is solidly in place** to prevent corruption.
- The governance structures are now in place with a **functional LHDA board** and a credible professional as chairperson. The critical **Technical Sub-Committee (TSC)** of the LHDA board that was in limbo in 2017 is up and running. The **Project Management Unit (PMU)** is fully staffed with well-qualified and skilled professionals.
- The conclusion could be drawn that **contracts awarded to date** were handled reasonably free of corruption.
- Nomvula Mokonyane (Minister of Water from May 2009 to April 2014) was **unsuccessful in her efforts to force the appointment of an engineering firm without** the required skills, experience and established procedures.

Negative findings including risks

- The two **main construction contracts have not been awarded yet**. These are for the Polihali Dam and Polihali-to-Katse Transfer Tunnel. The delays were caused by a period when the LHDA was without a board and TSC as well as through political interference by then-Minister Mokonyane in some of the tendering processes.

- It is estimated that the **first water from LHWP II** will not be available before late 2026 or early 2027. That means **seven-and-a-half to eight years later** than originally planned.
- Water supply from **LHWP II is critical in the security of water provision** for the Vaal River System and therefore in the economic and social development of **Gauteng** as the financial powerhouse of the nation. Excessive water losses and unaccounted for water in South Africa’s water infrastructure can lead to water shortages within the next few years.
- A new concern that has come forward is the **lack of delegation of decision-making powers to the PMU**. According to the Agreement of 2011 the PMU will “*oversee and manage the implementation of Phase II*” but in order to be able to do its job properly this PMU must have the necessary powers assigned to it. The Agreement places an obligation on the commission to “*delegate to it the powers necessary for this purpose*”. Unfortunately, it would appear that the necessary powers have not been delegated yet to the PMU. This is reason for serious concern as such a mega project needs decision-making powers right on site. A PMU without delegated powers is a PMU with hands tied that will be exploited by large international contractor companies to the detriment of the client – in this case the Department of Water and ultimately the Gauteng consumer and the South African taxpayer.
- The **current operational rule for the Katse Dam** is to release water continuously via the Muela-Ash transfer tunnel down to the Vaal Dam. This was agreed to allow Lesotho to generate maximum electricity, but it is **not optimal** from a water-management perspective. What has now happened is that a dry summer-rainfall season combined with these sub-optimal operating rules described above has resulted in the **Katse Dam sitting at 16.9% and the Mohale Dam at 32.5%**. This further increases the risk of shortages in Gauteng.
- The lack of an independent water and economic regulator for water pricing in South Africa means that there is **no autonomous balance mechanism for water tariffs**. It is a great concern that it is still unclear how the LHWP II tariffs will be controlled and regulated.
- **The Department of Water is without sufficient technical capacity at top-management level.** When LHWP I was implemented South Africa had a Department of Water with sufficient technical capacity. That has since been eroded and there is no professional engineer in the top-management structure of that department. It is of grave concern that the department should give guidance in the building of new infrastructure worth billions of rand without any professional engineers in its top management.
- It is alarming to note that the feasibility studies for the **Lesotho-Botswana Water Transfer Project (LBWT Project)** to supply Lesotho water to Botswana are running ahead (AfDB, 2019). To date there has been no public participation for this scheme or a formal international agreement for the LBWT Project that involves a 720-kilometer pipeline across South Africa and will negatively affect existing users in South Africa.

In conclusion

The essentials of the bi-national agreements between Lesotho and South Africa stand firm if followed as a very solid foundation for the implementation of LHWP II. The scope and complexity of such a mega water project remain enormous as well as the subsequent impact, either positive or negative. On the one hand it could ensure sufficient water resources to sustain economic and social growth in Gauteng as well as benefit Lesotho's economy and tourism. On the other hand, if it is not executed properly and effectively, it could be marred with court cases, cost over-runs and end up becoming another financial burden on cash-strapped consumers.

The current uncertainty regarding the role of the PMU is of real concern and must be addressed urgently. The effective and efficient project management during construction will be key in ensuring the infrastructure is delivered on time and within budget. The long-term operation of the LHWP as an integral part of the Vaal River System is equally important. If operated sub-optimally, water security will remain a risk.

The real elephant in the room is a Department of Water that has substantially weakened as a technical department since the implementation of LHWP I. This must set alarm bells ringing.

2. Introduction

2.1. Purpose and main elements of discussion document

The purpose of this document is to provide an objective and critical evaluation of the current status of Phase II of the Lesotho Highlands Water Project (LHWP II).

This includes reporting on:

- The international Treaty, Protocols and Agreement for LHWP I and II.
- The institutional framework and governance structure for the implementation of LHWP II.
- The history of LHWP I and the LHDA policy on corruption.
- The elements of LHWP II and progress with tendering and the awarding of contracts.
- Areas of concern identified in the implementation of LHWP II.

The aim is to:

- Understand the critical role of LHWP II in water security for Gauteng, its businesses and residents.
- Recommend certain options for engaging with the Department of Water and/or other parties in order to ensure water security, eliminate the risk of corruption and wasteful expenditure, and promote the optimal use of income generated from water sales.

The LHWP is a phased, multi-billion maloti/rand, bi-national development and the largest interstate water-transfer project in the world (AHK, date unknown). Section 2 of this report will cover the institutional and governance structures created for this international project. Section 3 will deal in detail with the corruption trials stemming from LHWP I including anti-corruption actions resulting from these investigations. The international Treaty, the Agreement for LHWP II as well as the Protocols are covered in section 4.

Phase II of the LHWP, as will be discussed in detail in section 5 of this report, comprises two main components: a water-transfer component to augment the delivery of water to South Africa and a hydropower component which will increase the electricity generation capacity in Lesotho. The Phase II water-transfer component comprises a planned dam at Polihali and a gravity tunnel that will connect the reservoir at Polihali with the existing Katse Reservoir.

The final part of this report – section 6 – deals with findings both positive and negative as well as emerging risks and recommendations.

2.2. Institutional and governance structures

2.2.1. The Department of Water (South Africa)

South Africa's Minister of Water is the public trustee of the nation's water resources in terms of article 3(1) of the National Water Act (Act 36 of 1998) (RSA, 1998). She is also the regulator of water services in terms of the Water Services Act (Act 108 of 1997) (RSA, 1997). The Minister, and for practical

implementation the Department of Water, is responsible for overall planning of water resources and water services. In this particular case it means a responsibility for water supply to Gauteng as stated in article 3(1) of the National Water Act that she “*must ensure that water is protected, used, developed, conserved, managed and controlled in a sustainable and equitable manner, for the benefit of all persons and in accordance with its constitutional mandate*” (RSA, 1998).

In executing this planning function the department identified several projects to augment water supply to Gauteng including further water transfers from KwaZulu-Natal and Lesotho. Feasibility studies had subsequently shown that the most viable option would be the implementation of LHWP II. The department was then instrumental in negotiating an agreement with the Government of Lesotho on behalf of the South African Government.

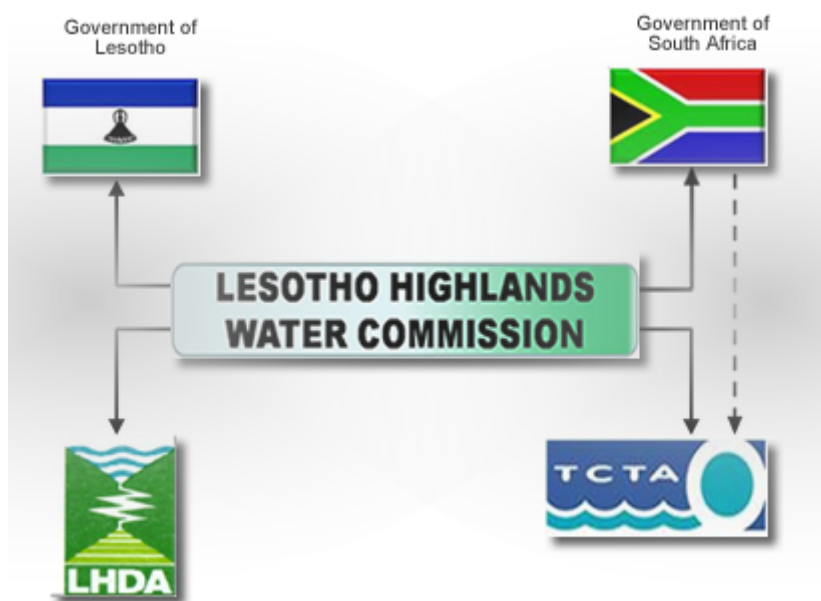
2.2.2. Ministry of Energy, Meteorology and Water Affairs (Lesotho)

The counterpart of South Africa’s Ministry of Water in Lesotho is the Ministry of Energy, Meteorology and Water Affairs, which represents Lesotho on the Lesotho Highlands Water Commission (LHWC).

2.2.3. The Lesotho Highlands Water Commission (LHWC)

In terms of the international Treaty signed in 1986 between Lesotho and South Africa (Treaty, 1986) to harness the water from Lesotho for mutual benefit, the two countries have established certain institutional structures (see figure 1). The LHWC functions as the coordinating body between the two governments whilst the LHDA acts as the implementing agency for the LHWC in Lesotho and the Trans-Caledon Tunnel Authority (TCTA) as the implementing agency for those works in South Africa. Each country nominates its own representatives to represent it in the LHWC which is then responsible and accountable for the LHWP. It acts on behalf of and advises the two governments and it is the channel of all government inputs relating to the Project.

Figure 1: High-level structures for LHWP (source LHDA)



Following the corruption trials stemming from Phase I of the LHWP (as will be discussed in detail in section 3 of this report) the Treaty was amended by means of six protocols. Most important for this report is Protocol VI (Protocol VI, 1999) dealing with governance and the implications of these changes such as the TSC of the LHDA board and the PMU. These structures will be further explained in sections 4.5 and 4.6 of the report.

2.2.4. The Lesotho Highlands Development Authority (LHDA)

The - LHDA is the implementing authority for all infrastructure in Lesotho. That includes the awarding of construction contracts as well as the ongoing operation and maintenance of the entire infrastructure in Lesotho for the full duration of the project after construction has been completed. The LHWC appoints a board of directors for the LHDA which in turn appoints the Chief Executive. For the day-to-day running of the organisation, the Chief Executive is assisted by a team of executive members and branch managers. South Africa must ensure that the best possible candidate is appointed for this critical role.

Protocol VI (Protocol VI, 1999) amended the Treaty with the purpose of strengthening governance, including providing absolute clarity of roles and responsibilities and establishing institutions to foster good governance.

Article 3 of this Protocol dealt with the restructuring of the functions, powers and obligations of the LHDA by stating:

Article 7 of the Treaty is hereby amended by deleting paragraphs (37) and (40) and by substituting the following paragraphs for the corresponding paragraphs in the Treaty and adding paragraphs (41) to (44):

*The Board shall be accountable to the Lesotho Highlands Water Commission, shall give it its full co-operation and give full effect to the applicable provisions of Article 9. (33) (a) The Lesotho Highlands Development Authority shall be managed and controlled by a Board which shall be appointed by the Lesotho Highlands Water Commission **and shall comprise executive and non-executive members appointed on merit and for such skills as may from time to time be determined by the Lesotho Highlands Water Commission provided that at least one non-executive board member shall be appointed from the public at large by virtue of his or her prominence or stature.** (b) The non-executive members shall be appointed from nominations submitted by Lesotho and the executive members from nominations submitted by the Chairman of the Board. (c) The Chairman and Vice-Chairman of the Board shall be appointed by the Lesotho Highlands Water Commission from among the non-executive members of the Board. (34) (a) The Board shall in accordance with the provisions of the Treaty establish the operational policies of the Lesotho Highlands Development Authority on all matters with which it is entrusted.*

Although no formal notice could be traced on the LHDA website, informal enquiries indicated that the term of the LHDA board ended on 31 March 2016. After a six-month lapse the previous board was re-appointed from 1 October 2016 to 31 May 2017 as an interim arrangement. It meant that the LHDA was without a governing board from 1 April 2016 until end of September 2016, resulting in a delay of six months at a critical stage in the implementation of the LHWP II. The other vital implication is that the TSC also stopped functioning after 1 April 2016. The TSC and PMU will be further discussed in sections 4.5 and 4.6 of the report.

2.2.5. The Trans-Caledon Tunnel Authority (TCTA)

The TCTA was created in terms of the Treaty and the Agreement as the implementing agency for those components of LHWP that are in South Africa. In Phase I this meant the delivery tunnel between Muela and the Ash River outfall. The TCTA is now fully accountable for the debt management and funding of the water-transfer portion of the project as well as the operation and maintenance of the Delivery Tunnel North, the part of the tunnel on the South African side of the border.

The Minister of Water is accountable for oversight of public water entities created in terms of legislation such as water boards, catchment management authorities and, in this case, the TCTA.

3. Corruption during LHWP Phase I

3.1. Construction of Phases IA and IB

The major works of LHWP I included the construction of the Katse Dam, the water transfer and delivery tunnels, the Muela Dam and the Muela Hydropower Plant. This was Phase IA. In Phase IB the Mohale Dam and a tunnel were built connecting the Mohale reservoir with Katse.



Figure 2: Katse Reservoir with Katse to Ash River tunnel intake tower in background (Photo Aurecon)

Katse Dam is a massive double-curvature concrete arch dam on the Malibamat'so River that was completed in 1996. From the Katse reservoir water is transferred under gravity via a concrete-lined transfer tunnel of 45km to the Muela hydropower station, from which the water discharges into the Muela Dam and from there into a second tunnel. This delivery tunnel is 37km long and releases water at the Ash River outfall near the town of Clarens in South Africa. Water releases then follow the natural water course down to the Vaal Dam.



Figure 3: LHWP Phase IA Katse Dam wall (Photo Aurecon)

The implementation of Phase IB resulted in the completion of the Mohale Dam in 2002 as a very large rock-fill dam, located on the Senqunyane River. At the same time a 32km transfer tunnel was built between the Mohale and Katse Dams. The system is interconnected in such a way that water may be transferred in either direction for storage in Mohale or ultimate transfer to South Africa through the Katse reservoir. An additional component of Phase I was the Matsoku diversion weir transferring water to Katse reservoir.



Figure 4: LHWP Phase IB – Mohale Dam (Photo Department of Water and Sanitation)

The published Nominal Annual Yield (NAY) of Phase I is 24.7 cubic metres per second (m³/sec) or 780 million cubic metres per year (million m³/annum). Although the Katse Dam has a power-generation capability for local use, the primary purpose is as the storage reservoir for Phase IA, and to provide water for discharge into the transfer tunnel. The first water was delivered to South Africa in January 1998 (www.lhda.org.ls). By the end of April 2019 a total of 15 240 million cubic metres of water had been supplied to South Africa through Phase I with the income so generated totalling R9.711 billion ([Royalties, 2019](#)) for Lesotho.

3.2. Corruption trials following Phase I

The five corruption trials following the implementation of Phase I of the LHWP drew tremendous international and local media attention for the following reasons:

- Government officials receiving the bribes went on trial as well as the private sector companies which paid the bribes.
- Several well-known international companies were involved such as Acres (a large engineering consultancy firm from Canada), Lahmeyer (German engineering consultants), Spie Batignolles from France and a major Italian construction company, Impregilo (International rivers, 1999).
- Certain individuals from Lesotho and South Africa played key roles as “middle men” for transfer of funds.
- These trials are believed to be the first such prosecutions of this type and magnitude in Africa.
- It also is believed to be the first time multinational companies were fined outside their home countries for corruption.
- The top employee of the LHDA was sentenced to jail and the private companies fined substantial amounts.

At the Stockholm Water Week in 2005 a paper on the LHWP corruption trials was delivered by Anton Earle and Tony Turton, researchers from the African Water Issues Research Unit (AWIRU) at the University of Pretoria. The following is a summary from that presentation (*Earle, Turton, 2005*).

Masupha Sole was the key personality in the corruption trials. He had joined the Lesotho public service in 1972 and progressed to position of senior engineer in Lesotho’s Department of Water Affairs by 1986. From there he moved on as a seconded official to the LHDA as its first Chief Executive, a position of great power and responsibility. Questions were raised about his management style, specifically about staff appointments and finances. When a democratic government came to power in Lesotho in 1993 it took steps towards good governance and, resulting from that, the Minister of Natural Resources called for an audit of the LHDA affairs.

Investigations and an audit identified several irregularities related to Sole’s affairs. These included abuse of the housing scheme, the charging of personal expenses to work accounts and nepotism. These “irregularities” prompted the Lesotho Minister to launch a full-scale disciplinary inquiry at the end of 1994. Sole challenged, in court, the Minister’s right to hold an inquiry. He lost the case as well as the subsequent appeal resulting in the termination of his position at the LHDA.

During these proceedings it became clear that Sole was living beyond his means, showing the classic “red flags” of corruption such as expensive cars, gifts and travel. These investigations also revealed that substantial additional costs to the LHDA were incurred by Sole through the improper awarding of two specific contracts. During the civil action trial Sole’s bank records were exposed showing movement of substantial amounts of money whilst his bank manager testified that Sole had an undeclared bank account in South Africa. This South African account showed large and regular payments from a Swiss bank account also believed to be Sole’s.

With the assistance of the Swiss authorities the Lesotho prosecution team gained access to the Swiss banking accounts early in 1999. This was a breakthrough in the case and in October 1999 the court ruled that Sole should pay damages of more than R8 million to the LHDA. This ruling led to Sole being criminally tried for the common-law offence of bribery. At the criminal trials in July 1999 several charges of bribery and fraud were brought against 19 accused individuals and companies; the latter group included some international engineering firms. Judge Brendan Cullinan of Ireland (an ex Chief Justice of Lesotho) was brought out of retirement for the cases. This was done to have a person with sufficient experience to handle the complex issues of the trials speedily and to counter any allegations of bias.

During the trials it became evident that payments were typically made from a company to a representative agent (a middle man) and then to Sole. A forensic audit of the accounts of the accused was carried out by PricewaterhouseCoopers which showed movements of funds from the companies to the agents which were then promptly followed by further transfers, this time to Sole's accounts.

Sole was sentenced to 18 years which was after appeal reduced to 15 years. Acres was found guilty of bribing a public official and subsequently fined close to R15 million. This is believed to be the first multinational company to be successfully tried outside its home country for bribery. Lahmeyer consultants were also sentenced and fined. Following the successful prosecution of Acres, the company was debarred in July 2004 from tendering for World Bank contracts for three years. The LHDA demanded that the bribes be paid back into the project funds; it's not clear how much was paid over. (This has been done by Spie Batignolles but interesting to note that in an article in 2004 it was reported that Acres had not yet paid). (*Khuzwayo, 2004*)

The researchers (Earle and Turton, 2005) found several factors influencing the trials that promoted the prosecution of bribery in the Lesotho case. These included changes to the Swiss banking law allowing some access to banking records. The World Bank made its records and results of its 2001 investigation into Acres available. The French government cooperated in the Spie Batignolles case. Fortunately, there was political support within Lesotho for the trials and no interference in the work of the prosecution team. Despite lack of funding from the international community the LHWP provided bridging finance for the Impregilo trial.

The same researchers found factors that hindered the prosecution of bribery in the Lesotho case such as company name changes. There was also a World Bank letter requesting that Sole's suspension be lifted during his initial disciplinary investigation. Lack of financial support for the trials from the international community slowed the process down. The crime of "bribery" is not well defined in common law and most disturbing of all was to find that "until recently bribery of a foreign official was not a crime in most OECD countries". The prosecution was also held up by the complicated and opaque banking arrangements of the accused.

The following conclusions from the trials were drawn by the researchers):

- Demand-side as well as supply-side measures need to be instituted against bribery;
- Much can be achieved when the political will to fight corruption is in place;
- The trials have improved governance in Lesotho; and
- Debarment of offenders from future internationally funded work is a credible threat.

The valuable lessons learned from these trials led to amendments through Protocols to the original 1986 Treaty as will be discussed in the next section. Furthermore, an anti-corruption policy had to be adopted by the LHDA. In South Africa the TCTA added a specific section to its prequalification and final contracts dealing with bribery. For example: Firms and contractors must declare that if they have been accused of bribery anywhere in the previous 10 years that they have not and will not engage in bribery on this project. If the above is contravened the company may lose its profits on the contract (deemed to be 5% of the project cost).

4. Treaty on LHWP and Agreement on Phase II of the LHWP

4.1. Signing of the Treaty (1986) and Protocols

The governments of Lesotho and South Africa concluded a Treaty on the Lesotho Highlands Water Project on 24 October 1986 and then implemented Phase I. Since then a total of six protocols were negotiated and concluded subsequent to the signing and ratification of the 1986 Treaty, namely:

- Protocol I to the Treaty – Royalty Manual (1988);
- Protocol II to the Treaty – Southern African Customs Union Study (1988);
- Protocol III to the Treaty – Apportionment of Liability for Costs (1991);
- Protocol IV to the Treaty – Supplementary Arrangements (1991);
- Protocol V to the Treaty – Supplementary Arrangements – Project Tax (1999); and
- Protocol VI to the Treaty – Supplementary Arrangements – Governance (1999).

This protocol is of special importance as it provided for certain key measures to prevent corruption.

Phase II did not follow automatically after completion of Phase I. Some alternative water supply projects to augment the Vaal River System (e.g. further transfers from the Thukela River) had to be considered and evaluated. The resulting feasibility studies on such alternative projects as well as an achievability study on Phase II of the LHWP then proved the latter to be the preferred project. Since the Treaty of 1986 did allow for further implementation of LHWP an agreement on Phase II was negotiated. This Agreement on the LHWP II was signed on 11 August 2011 between the governments of Lesotho and South Africa (LHDA, 2011).

Although the Phase II Agreement was signed by the two governments in August 2011, it did not automatically enter into force once signed. The reason for this was that the constitutional requirements for taking effect needed to be complied with first. South Africa ratified the Agreement in November 2012 and Lesotho did so in May 2013.

The 1986 Treaty still remains valid as it deals with various aspects that are not covered in the Phase II Agreement. Hence, the two documents need to be read together. Figure 5 below provides a graphic presentation of the sequence of events.

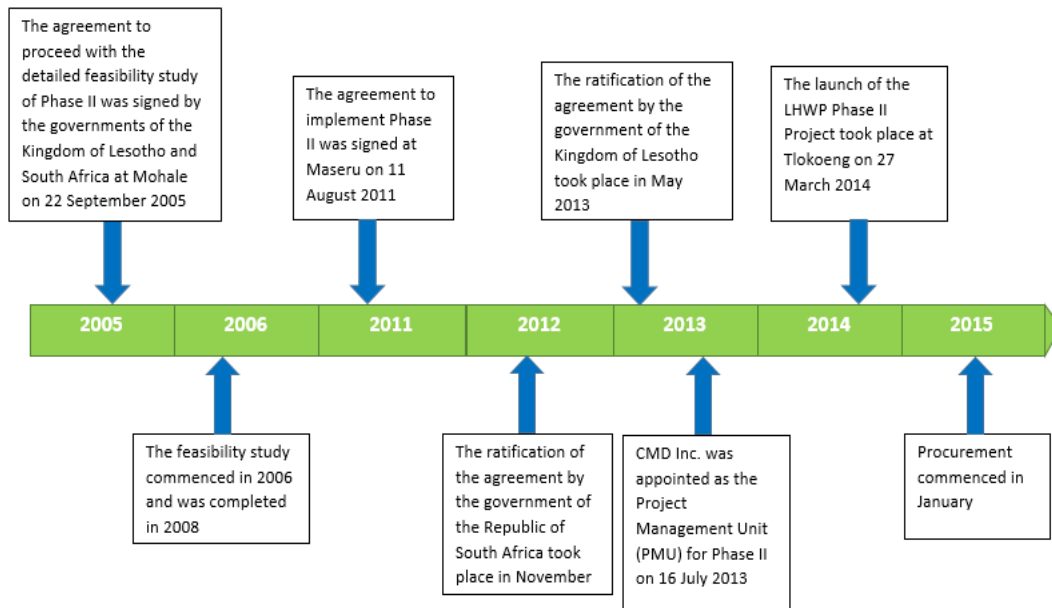


Figure 5: Diagrammatic representation of agreements and approvals leading to start of LHWP II

(Source LHDA)

4.2. Main contents of the Agreement (2011)

The articles in the Agreement signed in 2011 paving the way for LHWP II make provision for implementation, institutional arrangements and governance, operational and hydropower arrangements, cost allocations and financing arrangements. There are specific clauses on procurement of goods and services and anti-corruption measures. The annexure to the Agreement provides more detail on the project as well as a cost apportionment schedule (LHDA, 2011). For the purpose of this report the following discussion will be restricted to a brief description of the project and later more focus placed on the procurement and anti-corruption measures.

4.3. LHWP II project description

Annexure 1 of the Agreement (LHDA, 2011) provides the following description of the main components of Phase II: *“The Polihali Dam will be constructed downstream of the confluence of the Senqu and Khubelu Rivers and will be 163.5 metres high concrete faced rock-fill embankment dam wall. The crest length will be 915 metres with a full supply level of 2075 metres above sea level. A 49.5 metres high saddle dam will also be constructed as well as a side channel spillway.”*

Figure 6: Map indicating main components of LHWP II (From LHDA website)



It further states: *“The Polihali to Katse Tunnel will be constructed to transfer water from the Polihali Reservoir to Katse Dam. The tunnel will be 38.2 kilometres long, with a diameter of 5.2 metres and sized to convey a peak power generation flow of 35 cubic metres per second.”*

Other works described are a proposed pump-storage hydropower scheme (dependent on feasibility studies) and access roads, electricity supply and accommodation for construction workers as well as upgrading of community facilities.

Feasibility reports estimated the cost of the project as at December 2011, with no escalation applied (AHK, date unknown).

Water Transfer Cost:	R 9.280 billion
Hydropower component:	R 8.092 billion
Total cost (2011) for LHWP II:	R 17.372 billion

Just taking the annual price inflation into account since 2011 the estimated cost has risen to R22.913 billion in 2016 (Frankson, 2016). At the annual tariff consultation done in August 2016 for major water users of the Vaal River System the TCTA used an **estimated capital cost of R25.1 billion for LHWP II but clearly stated that the actual costs will be known only once the construction tenders had been awarded** (TCTA, 2016). **A figure of R30 billion has lately been mentioned but this is pure speculation.** One can however assume that the projected cost was focussed on a set deadline. Following delays to the project, an inflation-linked escalation on the amount for every year the deadline is pushed out may be deemed an accurate projection.

4.4. Procurement and anti-corruption measures

The procurement of goods and services is covered in article 10 of the Agreement whilst article 16 deals specifically with anti-corruption measures (LHDA, 2011).

Sub-articles 10(a) and 10(b) are copied here:

“The Lesotho Highlands Development Authority shall, in the procurement of all goods and services, apply and give effect to the following procedures:

(a) All procurement processes shall foster competitiveness, transparency, cost effectiveness and quality,

(b) Preference shall be given to suppliers of goods and services, including consultants and contractors, in Lesotho, South Africa, the Southern African Development Community member states and internationally, in that order; provided that the provisions of paragraph (a) shall always be satisfied;

Section 16 that deals with anti-corruption measures stipulates as follows:

(1) “The Lesotho Highlands Development Authority shall develop and adopt a comprehensive anti-corruption policy for the project, having regard to the experiences of Phase I and the worldwide best anti-corruption practices developed for major international projects.”

The LHDA subsequently compiled an anti-corruption policy pursuant to Article 16 of the Agreement on Phase II that was adopted in 2011 and states (LHDA, Oct 2011):

6. All persons or entities involved in the project must observe the highest standards of ethics.

7. The Project Authority shall take all appropriate measures to combat corruption in all its forms.

8. All contracting parties or entities and persons otherwise involved in the Project, shall take all appropriate measures to prevent and combat corruption and to refrain from engaging in corruption in connection with their involvement in the project.

Both the LHWC and the LHDA are included in the definition of “Project Authority”.

The policy describes corruption as a “corrupt practice, a fraudulent practice, a collusive practice, a coercive practice” as well as an “obstructive” practice.

Sections 14 to 16 of the Anti-Corruption Policy deals with the exclusion at the sole discretion of the Project Authority of any contractor, or any employee or former employee or any individual, that “was previously involved or implicated in corruption” from involvement in the Project.

Section 20 aims to hold all involved personally accountable whilst section 21 targets the protection of whistle-blowers.

20. *All contractors and consultants as well as their employees and agents, as well as employees of the Project Authority [i.e. employees of the LHWC and the LHDA] involved in the project, shall commit themselves to taking all appropriate measures to prevent corruption and shall immediately report to the Project Authority any corruption that comes to their attention, and any failure to report shall be deemed to constitute corruption.*

21. *The Project Authority shall do everything in its power to protect the identity of employees who act in terms of their aforesaid obligation to report instances of corruption. In addition, the Project Authority shall seek to ensure that such employees are not victimised or otherwise discriminated against as a result of their so reporting.*

4.5. Technical Sub-Committee of the LHDA

Article 6 of the Agreement of 2011 specifies the Technical Sub-Committee (TSC) and the Project Management Unit (PMU) as two key structures to ensure efficient and effective execution of the LHWP II by the LHDA.

The TSC is constituted in Article 6 (1) (a) of the Agreement of 2011 as:

The Board of the Lesotho Highlands Development Authority shall establish a Technical Sub-Committee to advise and assist the Board with regard to technical, engineering, environmental and social matters relating to the implementation of Phase II. The Technical Sub-Committee shall be chaired by a member of the Board and comprise members of the Board and external specialist members appointed by the Board in consultation with the Lesotho Highlands Water Commission.

4.6. The Project Management Unit of the LHDA

Article (2) (a) of the Agreement of 2011 specifies the PMU as follows:

(2) (a) The Lesotho Highlands Development Authority shall establish, as part of its institutional arrangements, a Project Management Unit to oversee and manage the implementation of Phase II and shall delegate to it the powers necessary for this purpose.

(c) The Project Management Unit shall be staffed by professionals with experience in the construction and implementation of large water resource and hydropower projects, who shall be competitively procured through an open tendering process.

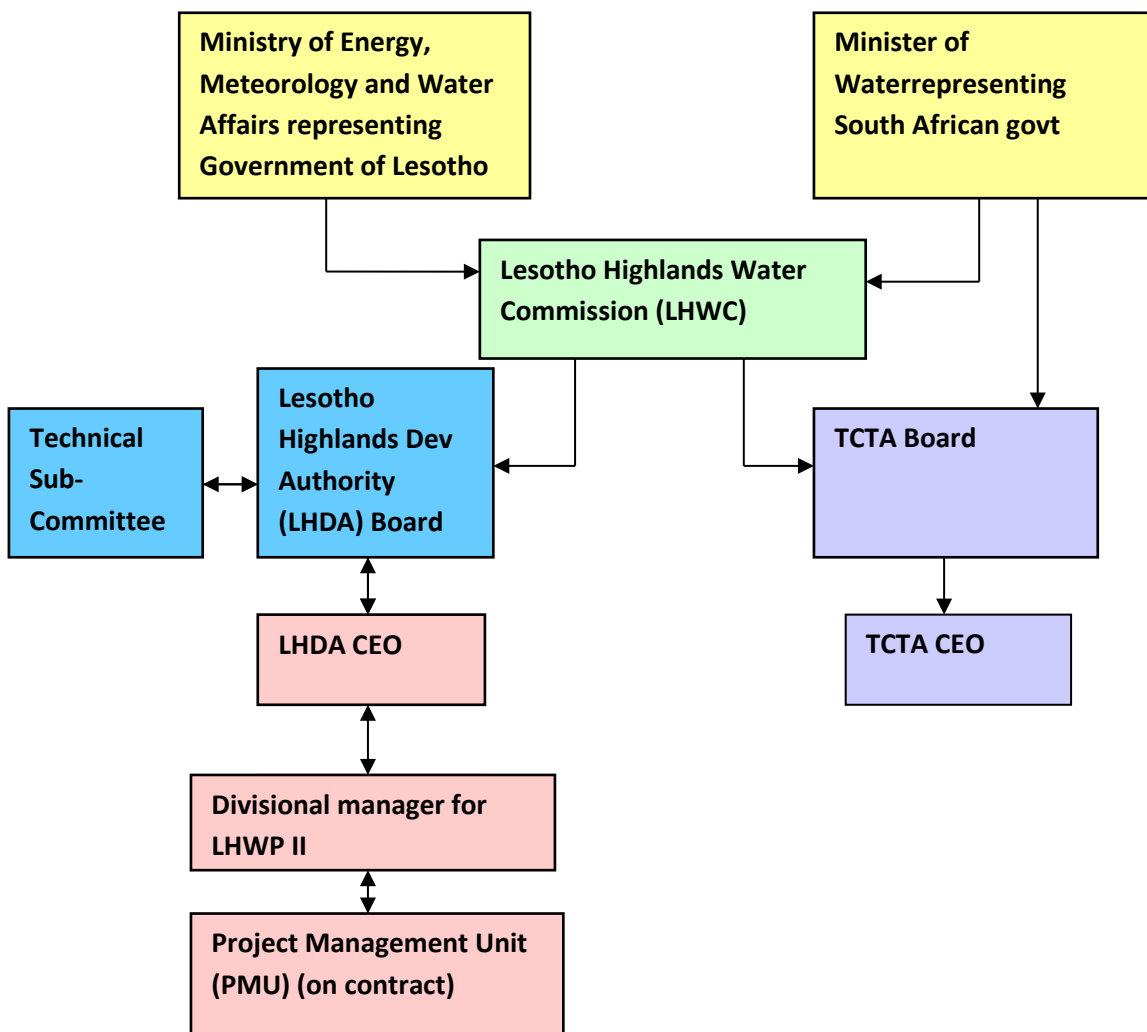
In October 2013, the LHDA issued a press release, which provided, amongst others:

The Lesotho Highlands Development Authority has successfully implemented Phase I of the Lesotho Highlands Water Project. This comprised the construction of the Katse and Mohale Dams as well as the 'Muela Hydro Electric power station. The social and environmental programmes are on-going.

The preparations for the implementation of Phase II of the Project (LHWP) are underway. Commencement of the work on Phase II was marked by the appointment of CDM International Inc. as the Project Management Unit (PMU) for Phase II on the 16th July 2013. The PMU started its assigned work on the 19th of August 2013.

Based at the LHDA Headquarters in Maseru, the PMU is responsible for the day-to-day management, coordination, monitoring and delivery of LHWP Phase II works and related social and environmental programmes. The PMU is a multidisciplinary service provider with extensive expertise in managing the implementation of large water transfer schemes involving dams and tunnels and the associated infrastructure.

Figure 7: Graphic interpretation of the entities and structures for LHWP II based on the Agreement of 2011 (H Muller)



5. Tenders and contracts in the implementation of LHWP II

5.1. Contracts for the implementation of LHWP II

According to the Master Programme version 12 (LHDA, 2019) there will be a minimum of 42 contracts to be concluded during the implementation of LHWP II. These consist of: 10 for engineering services; 11 for consulting services on environmental, social and public health issues; and 21 contracts for the construction of the dam, tunnel, access roads and bridges. As indicated below there are already 36 contracts awarded of the 42 contracts listed in table 1. A few critical contracts are highlighted (detail from the LHDA website 2019).

Table 1: LHWP II – Table of contracts awarded as at 25 July 2019 (LHDA, July 2019)

LHDA contract no	Contract description	Contract awarded	Successful contractor and comments
3004	Professional Services for the Design and Construction Supervision of the Polihali Western Access Road	2-11-2016	
3006	Professional Services for the Design and Construction Supervision of Polihali Dam and Appurtenant Works	20-06-2017	Matla a Metsi Joint Venture with Mott McDonald Africa, GIBB (RSA), Tractebel Engineering SA, Coyne et Bellier and Lyma Consulting Engineers (Lesotho) as members
3007	Professional Services for Design and Construction Supervision of the Polihali Transfer Tunnel	15-12-2017	Metso a Senqu-Khubela Consultants (MSKC) with Aurecon, Hatch, Knight Piesold & SMEC
3008	Professional Services for the Bulk Power Supply and Telecommunications	2-09-2016	
3009	Professional Services for the Planning, Design and Construction Supervision of the Project Housing and Associated Infrastructure	26-06-2015	Polihali Infrastructure Consultants – Mott MacDonald PDNA and Khatleli Tomane Moteane JV
3010	Professional Services for the Phase II Hydropower Feasibility – Further Studies	3-03-2017	
3011	No detail shown		
3012	No detail shown		
3013	Survey and Aerial Photography of the Mohale and Katse Reservoir Areas, Powerline Corridor and the Polihali Dam Inundation Area	23-11-2017	
3014	Professional Services for Polihali North East Access Road	28-04-2015	SMEC-FMA Joint Venture
3015	Professional Services for Evaluation, Optimization and Site Supervision of Geotechnical Investigations for the Polihali Dam and Polihali-Katse Transfer Tunnel	6-05-2015	Jeffares and Green in association with GWC Consulting Engineers
3016	No detail shown		
3017	Professional services for the Demarcation of Polihali Reservoir	24-04-2015	Maleka, Ntshilele, Putsoa Joint Venture

3018	No detail shown		
3019	Professional Services for the Design and Construction Supervision of the Upgrade of Katse Lodge	29-08-2018	
3020	Professional Services for the Design and Construction Supervision of the Polihali Major Bridges	27-11-2018	
3021	No detail shown		
3022	Professional Services for the Design and Construction Supervision of the Polihali Diversion Tunnels	7-10-2016	Metsi-a Senqu-Kubelu Joint Venture Consultants with Aurecon, Knight Piesold, Hatch Goba and SMEC (all from South Africa) and FM Associates (Lesotho)
4005B	Construction of 33kV line from Tlokoeng to Polihali and relocation of the 33kV line along the A1	20-03-2019	
4012	Construction of the Polihali North East Access Road	24-10-2018	
4016	Geotechnical Investigation Works for the Polihali Dam and Polihali-Katse Transfer Tunnel	11-11-2015	
4017A	Construction of Polihali Western Access Road – West	9-07-2019	
4017B	Construction of Polihali Western Access Road – East	26-07-2019	
4018A	Construction of Advance Infrastructure Civil Works at Polihali and Katse	29-10-2018	
4022	Construction of Polihali Diversion Tunnel	15-04-2019	
4023	Design, Supply and Installation of Temporary Offices and Accommodation Units	15-04-2019	
5505	Request for Expressions of Interest for Dispute Board	15-05-2019	
5506	Request for Expressions of Interest for Engineering Panel of Experts – Hydro Mechanical Expert	03-03-2019	
5509	Professional Services for the Procurement of an External Environmental and Social Impact Assessment (ESIA) Reviewer(s)	29-05-2018	
5510	Professional Services for Establishment and Management of a Project Labour Recruitment Desk	02-11-2018	
6004	Professional Services for the Environmental and Social Impact Assessment (ESIA) for the Polihali Western Access Corridor (PWAC)	21-10-2016	
6006	Professional Services for Resettlement Planning and Implementation: Polihali Western Access Corridor	29-03-2017	
6010	Professional Services for the Development of a Phase II Safety Health Environment and Quality Management (SHEQ) Framework	28-10-2016	
6014	Professional Services for the Environment and Social Impact Assessment for Polihali Reservoir and Associated Infrastructure	22-08-2018	

6015	Professional Services for Resettlement Planning and Implementation: Polihali Site Establishment and Reservoir Area	02-09-2016	
6016	Professional Services for the Environmental and Social Impact Assessment (ESIA) for the Western (Katse) Site Facilities	29-05-2018	
6017	Professional Services for Resettlement Planning and Implementation: Polihali Western Site Facilities	29-05-2018	
6023	Professional Services for the Safety, Health, Environment and Quality Management (SHEQ) Audits for Phase II Advance Infrastructure Works	18-10-2018	
6025	Professional Services for the Development and Implementation of a Cultural Heritage Plan	06-12-2017	
6030D	Professional Services for Design and Implementation of Basic Construction Skills Training Programme for Individuals Affected by the LHWP Phase II	18-03-2019	
9004	Professional Services for Services Relating to Principal Controlled Insurance	08-11-2017	

5.2. Delays in the awarding of critical contracts

The procurement process for the sophisticated large engineering services contracts involved a process that must “ensure integrity and foster competitiveness, transparency, cost effectiveness and quality” (LHDA, 2015). The total process including advertising, request for proposals (RFPs), two-envelope bid submissions (technical and financial), technical bid evaluation, shortlisted bidders and the final evaluation can take 24 to 30 months.

There are at least three critical contracts in the engineering services group (highlighted in table 1 above) and the corresponding three construction contracts, namely:

- The contract for the **engineering design and construction supervision of the Polihali Diversion Tunnel (contract no 3022) as well as construction itself (contract no 4022)**: This diversion tunnel should have been designed, built and completed by 2019 in order to enable full-scale construction work on Polihali Dam (LHDA, 2016). The bypass tunnel is a critical component as it will divert the flow of the Senqu River through the mountain flank so as to enable construction of the main dam at the site without interruptions by river flows. After some delays the consultants were appointed in October 2016, namely MSKC Joint Venture, with Mott McDonald PDNA (RSA), Gibb (RSA), Tractebel Engineering SA (France) and Lyma Consulting Engineers (Lesotho) as members. The construction contract was subsequently awarded in April 2019 and work has started on the diversion tunnel.
- The contract for the **engineering design and supervision of the Polihali Dam (contract no 3006)**: It is clear that the sophisticated design work on the dam wall should proceed to such a point that tenders can be invited for the bidding process on the construction of the dam wall. Although bids closed on 14 September 2015 and the awarding of tender to the successful consultants was planned for mid-2016 (LHDA 2016) there were substantial delays

and political interference in the process (see section 6.1.7) with the result that the consultants were appointed only in June 2017 – therefore one year later as per revised plan.

- The contract for the **engineering design and construction supervision of the Polihali Transfer Tunnel (contract 3007)**: It should be evident that a completed Polihali Dam will be of no value to Gauteng if the Polihali transfer tunnel is not completed to take water to Katse Dam and from there to the Vaal River System. Although bids closed on 11 May 2015 and the awarding of tender to the successful consultants was planned by mid-2016 (LHDA 2016) there were also in this case substantial delays and political interference in the process with the result that the consultants were appointed only in December 2017. This was 18 months later than as per the revised plan.
- **Construction contracts for Polihali Dam (no 4020) and Polihali Transfer Tunnel (no 4021)** can only be awarded once the engineering designs have progressed up to such a stage that tender documents can be prepared. According to the latest Master Plan (version 12) of the LHDA they are currently engaged in a prequalification process with prospective construction companies. It is planned that the final tender process kicks off before the end of 2019. Allowing for a nine- to 12-month tender submission, evaluation and awarding process could mean that these construction contracts can realistically be awarded only in the latter half of 2020.

5.3. Implications of the delays on LHWP II

The implication of delays as discussed above is that construction may only start late 2020 or early 2021. The Master Programme allows for an actual construction period of six-and-a-half to seven years. **Based on the current progress in the awarding of tenders and applying realistic timelines for such a complex project it is not foreseen that the first water could be delivered before the third quarter of 2026 or early in 2027. This will be seven to eight years later than originally planned.**

Delays will have serious implications for Gauteng including:

- Risk of water shortages;
- Cost overruns;
- Economic restraint on development;
- Social implications; and
- Royalties paid to Lesotho will far outweigh the benefit to South Africa.

These delays are being recognised by individuals and entities not directly involved in the implementation of the LHWP.

An article in Engineering News reflects on a speech made by Professor Mike Muller, who is a visiting adjunct professor of the University of the Witwatersrand, a former Director-General of Water Affairs and Commissioner on the National Planning Commission, and an internationally recognised professional in water engineering. Some key parts are copied here (*Creamer, 2016*).

Speaking at this week's South African Institution of Civil Engineering Civilisation conference, the former Department of Water Affairs director-general emphasised the

need for concern about the water resources that underpin water supply... “We need the Minister to explain why her department is reducing Gauteng’s water security and what she is going to do about it.”...

*Muller outlined how Gauteng faced challenges with the construction of the second phase of the **Lesotho Highlands Water Scheme**. “**That project is already six years late,**” he said, adding that it was supposed to be completed by 2018. However, the design of the dam and tunnel had not even begun.*

Although the Cabinet had authorised the procurement of consultants months ago, tenders had still not been issued, he decried.

*While Lesotho was ready to proceed, South Africa was holding up the process. “**What is the problem? Is somebody trying to do a deal with this vital project? We cannot afford to put the security of Gauteng’s economy at risk like this,**” said Muller...*

He conceded that the Lesotho project’s process was “complicated, delicate and nuanced” involving two governments, a treaty, an estimated R10-billion capital cost and Lesotho running the procurement process and South Africa providing the funding at a time of significant financial stringency.

South Africa’s Trans-Caledon Tunnel Authority (TCTA) and the Lesotho Highlands Development Authority were required to work together to decide how to proceed and then to implement that decision.

*The two governments had to study the implications and consumers in South Africa would need to start paying immediately once the contract was signed to avoid a sharp rise in water tariffs, as has taken place with electricity... “**I venture to say, because we keep changing Ministers, I don’t think the Ministers actually even understand what needs to be done.**”*

He urged that Ministers be challenged to explain why they were taking so long. “Ask them to explain why the Lesotho government has asked South African parliamentarians to come and discuss the delays, which I believe has just happened,” Muller said, adding that he found it interesting that Lesotho should have to “very politely” call the South African government to account for the delays.

6. Findings and recommendations

6.1. Positive findings

6.1.1. Substantial progress since 2017

The good news is that substantial progress has been made and an additional 25 contracts were awarded since OUTA's previous report (OUTA, 2017) was published in 2017 (36 in total as indicated in table 1 above). The governance structures have been revived and are fully functional as will be reported below in sections 6.1.3, 6.1.4 and 6.1.5. Construction work on the diversion tunnels as well as advance civil works at Polihali Dam site and the access roads have started. The two major engineering contracts for design and supervision of the Polihali Dam and Polihali-to-Katse transfer tunnel were awarded and the designs have advanced to such a stage that tender documents for the actual construction will be issued in the near future.

6.1.2. Legal framework in place to prevent corruption

Valuable lessons learned from international best practice were well incorporated into Protocol VI as well as the Agreement for LHWP II signed in 1986. This was also followed by the adoption of an Anti-Corruption Policy by the LHDA (LHDA, Oct 2011). All the proper mechanisms are therefore in place and, as noted in Article 16(2), it remains the obligation of the parties to *"...implement all measures, including reviewing and expanding existing legislation, to prevent, uncover and prosecute any corrupt practices in respect of the Project"* (LHDA, 1986).

6.1.3. LHDA board up and running with credible chairperson

Since the 2017 report a new permanent board has been appointed with a very experienced and credible chairperson Robert Mbwana, who is a professional engineer.

6.1.4. Technical sub-committee functioning

The TSC, including the external experts as provided for in the Agreement of 2011, stopped functioning for half a year until the previous TSC was re-appointed as an interim arrangement until May 2017. This was later resolved and the TSC is now fully functional. This means it is in compliance with article 6(1)(a) of the Agreement.

6.1.5. PMU in place staffed with well-qualified and skilled professionals

As discussed above in section 4.6 the Project Management Unit (PMU) *"shall be staffed by professionals with experience in the construction and implementation of large water resource and hydropower projects, who shall be competitively procured through an open tendering process"* (article 2(a) of the Agreement of 2011).

Soon after signing of the Agreement in 2011 the LHDA commenced with the prequalification process for the PMU. The process to procure the PMU was made public through a press statement released by the LHDA (LHDA, 2015). *"Twenty companies responded to the invitation for Expression of Interest and in November 2011 a short list of 6 entities was approved. The Request for Proposal (RFP) was*

issued to the shortlisted companies in December 2011. The closing date for the tenders was 30 January 2012. The evaluation process was concluded in August 2012. However, the contract was not awarded pending ratification by the respective governments. Ratification took place in May 2013 and the PMU Contract was awarded to CDM International Inc. in July 2013.”

It is a reasonable assumption to accept that the PMU contract was awarded in full compliance with procurement procedures as stipulates in the Agreement of 2011. It can therefore be taken as a positive step that the PMU is staffed with suitable qualified and skilled professionals who are in line with the provisions of article 6 of the Agreement. It is however critical that this team’s performance and conduct be monitored accordingly to ensure best practice and good governance.

In October 2013, the LHDA issued a press release (LHDA, 2013), which provided, amongst others:

The preparations for the implementation of Phase II of the Project (LHWP) are underway. Commencement of the work on Phase II was marked by the appointment of CDM International Inc. as the Project Management Unit (PMU) for Phase II on the 16th July 2013. The PMU started its assigned work on the 19th of August 2013.

Based at the LHDA Headquarters in Maseru, the PMU is responsible for the day-to-day management, coordination, monitoring and delivery of LHWP Phase II works and related social and environmental programmes. The PMU is a multidisciplinary service provider with extensive expertise in managing the implementation of large water transfer schemes involving dams and tunnels and the associated infrastructure.

6.1.6. Contracts to date awarded free of corruption

It was out of the scope of this brief to determine if all contracts awarded to date for LHWP II were free of corruption and in full compliance of article 12 of the Agreement that stipulates that: *“All procurement processes shall foster competitiveness, transparency, cost effectiveness and quality”* (LHDA, 1986).

We assume that since the technical sub-committee is in place and the PMU properly staffed that all contracts awarded to date are fully compliant. As will be discussed in the following section (6.1.7) the efforts by former Minister Nomvula Mokonyane were unsuccessful in forcing the appointment of a politically connected company. This further strengthens the assumption as well as the absence of further negative reports in the media and the phasing out of Sole (see 6.1.8 below).

The official statement by the LHDA in this regard is encouraging (LHDA, 2015).

LESOTHO HIGHLANDS DEVELOPMENT AUTHORITY CLARIFIES TENDER PROCESS FOR BIDDERS

Maseru, 01 April 2015 – In light of questions posed around the Phase II bid process, the LHDA would like to clarify the tender process for all interested parties. The LHDA is committed to the delivery of Phase II of the Lesotho Highlands Water Project in accordance with the LHWP Anti-Corruption Policy.

The LHDA's mandate as defined by the 1986 Treaty and the Phase II Agreement (August 2011) is to implement the successful delivery of the Lesotho Highlands Water Project. This mandate includes putting in place procurement policies and procedures that ensure the integrity of the procurement process which shall foster competitiveness, transparency, cost effectiveness and quality. The procurement process for LHWP Phase II has been approved by the Lesotho Highlands Water Commission.

The procurement process ensures the fairness of bid evaluations, prevents potential interference with these processes and protects the integrity of the Project. It is followed rigorously and includes the following steps:

- Advertising of Requests for Proposals (RFPs) in local and South African media and on the LHWP Phase II website*
- Compulsory pre-bid meetings and site visits for all interested bidders*
- A two-envelope bid submission comprising a technical proposal and a financial proposal*
- The technical bid evaluation is based upon the evaluation criteria detailed in the RFP*
- Bids meeting the minimum threshold proceed to the financial evaluation*
- The firm with the highest combined score is submitted for approval to the LHWC as the preferred bidder on the recommendation of the LHDA Board*

No disclosure is made prior to the completion of the bid evaluation and negotiation processes. On completion of the bid evaluation process and successful negotiations with the preferred bidder, an award is made. The financial bids of those bidders who did not meet the minimum threshold requirements in the technical evaluation are returned to them unopened. Unsuccessful bidders are formally advised after the award is made.

The LHDA is committed to open and frank communication with key stakeholders to ensure complete transparency. Public announcements on the awards are made on completion of the tender award process.

6.1.7. Nomvula Mokonyane's attempts to have engineering contracts awarded to politically connected companies failed

Between 2015 and 2017 the Minister of Water at that time, the State Capture linked Nomvula Mokonyane, interfered in the process of awarding the two main engineering services contracts. Her reason was that there were not sufficient black-owned firms among those shortlisted for these contracts and she instructed that the contracts had to be re-advertised. The suspicion was that she wanted politically well-connected companies to be appointed. Such companies are known to have approached professional companies to enter into joint ventures. Practice indicated that these entities

were in effect “tender brokers” that would demand exorbitant fees, keeping the lion’s share of the fees for themselves whilst the other engineering partners had to do the real job. This delayed the project by two years – for example, designing a dam 160 metres high – require specialised technical skills and experience. A two-year delay will result in over R1 billion added to the total cost of the project that needs to be covered by the taxpayer and the former Minister is yet to be held accountable.

An article in City Press (City Press, 2016) provided more information:

Water Affairs and Sanitation Minister Nomvula Mokonyane is set to be grilled by the Public Protector’s office this week in connection with her involvement in the attempted “hijack and capture” of the binational Lesotho Highlands Water Project by a politically connected business entity and senior politicians from the landlocked country.

Public Protector Thuli Madonsela’s office confirmed the meeting, as did Mokonyane’s spokespeople, who said she was cooperating and had “given a date to engage with the Public Protector”.

The minister is said to have personally intervened to delay the project by a year to enable the involvement in the lucrative project of LTE Consulting, a company with which she has a long-standing relationship and which is a generous funder of the ANC.

Fortunately, the public became aware of this and civil society including OUTA expressed concerns in the media. The good outcome was that sanity prevailed and the LHDA has since awarded the contract for the design and supervision of the construction of the Polihali water-transfer tunnel – the largest of all the LHWP II engineering contracts – to the Metsi a Senqu-Khubelu Consultants (MSKC) joint venture (JV). The JV includes Lesotho-based FM Associates and experienced South African engineering firms Aurecon, Hatch Africa, Knight Piesold and SMEC South Africa. Work on the design started in December 2017 and the total contract is valued at R900 million.

“The MSKC JV combines local, regional and international tunnel experts who are well qualified to deliver on the brief within the timeframe and to the highest standards,” said Lesotho Minister of Water Samonyane Ntsekele (Engineering News, 2018).

The engineering contract for Polihali Dam was awarded to a joint venture of consulting companies GIBB (SA), Mott MacDonald Africa, Tractebel (France) and LYMA (Lesotho). The scope of services includes reviewing the existing project information, preparing design as well as tender drawings and tender documents, and supporting the LHDA throughout the tender and contract award process. The JV will also provide supervision during construction as well as train the LHDA staff for operation and maintenance of the tunnel and dam.

6.1.8. No role for Masupha Sole in LHWP II

According to the article in the City Press on 10 July 2016 (City Press, 2016), Masupha Sole was appointed as adviser to the Minister of Energy, Meteorology and Water Affairs who represents the

Kingdom of Lesotho in dealings on LHWP II. This was after he had spent nine years in jail and was paroled. The fact that Sole was found guilty in corruption trials following LHWP I and then apparently obtained another key role on LHWP II is reason for serious concern.

As mentioned in section 4.4 above the anti-corruption policy adopted by the LHDA (LHDA, Oct 2011) is very clear on ethical standards for all persons involved.

Section 6 of this policy states: *“All persons or entities involved in the project must observe the highest standards of ethics.”*

Section 7 states: *“The Project Authority shall take all appropriate measures to combat corruption in all its forms.”* Section 14 states: *“Where...any individual was previously involved or implicated in corruption.... such individual may be excluded from any involvement of the Project.”* Both the LHWC and the LHDA are included in the definition of “Project Authority”.

It was reported in 2012 that the South African Minister of Water at that time, Edna Molewa, formally objected to Sole’s appointment. Her concerns were echoed by the All Basotho Party as Lesotho’s main opposition party at the time and the media. In November 2012, the Mail & Guardian (Tlali, 2012) reported:

The appointment irked Molewa, who immediately sought legal opinion from the attorneys general of both Lesotho and South Africa.

She told South Africa’s Parliament in November last year that she was seeking legal opinion based on the Lesotho Highlands Development Authority’s procurement policy.

She also invited the response of other stakeholders, including the World Bank, South Africa’s Trans-Caledon Tunnel Authority, the water scheme itself and the water commission’s legal officers.

“Both the Cabinets of South Africa and Lesotho have ensured that there is an inclusion of a clause that ensures anti-corruption and good governance in the recently signed memorandum of understanding for this development,” Molewa told Parliament.

The positive outcome of all of this is that whilst sourcing information for this updated version of the report in 2019 it would appear as if Sole is not playing any part in the LHWP II or any of its structures.

6.2. Negative findings including concerns and risks

6.2.1. LHWP II is of critical importance but is at least seven years late

Water supply from LHWP II is critical in the security of water provision for the Vaal River System and therefore in the financial and social development of not only Gauteng as the economic powerhouse of the nation but also for South Africa. Water experts are warning that water shortages are due long before 2024 as the flattening of the water demand curve is not happening. Excessive water losses and unaccounted for water can lead to water shortages within the next few years.

Whereas the original intention at the signing of the Agreement on LHWP II was that water delivery from LHWP II will commence in 2019, the latest LHDA programme indicates it may be only in early 2026. (LHDA, 2019). Now in 2019, eight years after the signing of the Agreement, the fact is that critical construction contracts for Polihali Dam and Tunnel have not been awarded yet. Taking note of realistic time lines for tender processes and evaluations and delays during construction, it seems likely that the first delivery of water from Polihali Dam will happen only in the third quarter of 2026 or early in 2027. This is almost eight years later than planned.

6.2.2. Sub-optimal operation of LHWP increases risk of water shortages

The current operational rule for operation of the Katse Dam is to release water continuously via the Muela-Ash transfer tunnel down to the Vaal Dam. This was agreed to allow Lesotho to generate maximum electricity but is not optimal from a water management perspective. The logical rule for the Vaal River System should be to keep water as long as possible in the high-level dams, that is Sterkfontein Dam (in the upper Wilge River catchment in South Africa) and then of course in Katse and Mohale Dams in Lesotho. The reason for this is obvious: these three dams are situated in deep mountain valleys with a very favourable volume-to-surface ratio. For example, Vaal Dam has an average depth of eight metres compared to the 54 metres of the deep Katse Dam. As the total water surface area in Vaal Dam is almost nine times larger than Katse's water surface it is common sense that at least nine times more water will be lost through evaporation from Vaal Dam than from Katse Dam, without even taking account of the cooler climate in the highlands of Lesotho.



Figure 8: A re-assuring sight – an old photo of the Katse Dam wall and reservoir close to full supply level (Photo: LHDA) but by September 2019 it was at only 16.9%

Secondly, if water is released downstream to Vaal Dam and the summer rains arrive in the Vaal Dam catchment it can result in a Vaal Dam with too little spare capacity to catch such floods. Vaal Dam will start spilling earlier than needed all the way down to Bloemhof Dam and eventually to the Atlantic Ocean. So, the rule should be to keep water in Katse as long as possible. What has now happened is that a dry summer rainfall season combined with these sub-optimal operating rules described above has resulted in Katse Dam sitting at 16.9% and Mohale Dam at 32.5% (LHDA, September 2019).

An article in the Sunday Times on 13 September 2019 raised this issue together with an accompanying dramatic photo (see figure 9) under the headline “A dry Katse Dam highlights the need to conserve water in Gauteng, but don’t panic says department”. The article quotes Sputnik Ratau, the spokesperson for the Department of Water as saying that “we are hoping that we will get the summer rain” and, when asked if the situation would affect Gauteng, he brushed it off by saying: “we have our catchments that feed into the Vaal River System”, as if the LHWP component of the Vaal River System does not matter at all (Jordaan, 2019)



Figure 9: An alarming sight – a very dry Katse Dam in September 2019 – level at 16.9%

Photo by Jonathan Molapo on Twitter, republished in Sunday Times (Jordaan, 2019)

Dr Peter Van Niekerk, a former Chief Director for Water Resource Planning in the Department of Water, has warned about this issue on several occasions including in an article in Daily Maverick in May 2018 (Van Niekerk, 2018). He argued that:

While the transfer of water from Lesotho to the Vaal Dam was always the primary purpose of the LHWP, the 1986 treaty gave Lesotho the opportunity to build a hydropower station utilising the water released to South Africa. While modest in relation to the generating capacity of South Africa, this station currently generates a substantial portion of Lesotho’s electricity needs. Their remaining requirements come from South Africa. However, the operating rules favour generating of

Lesotho's hydropower to the detriment of water security for the economic heartland of South Africa – the cost of which greatly outweighs its benefit.

In the negotiations preceding the agreement on the Polihali Dam as the second phase of the LHWP, the issue of the sub-optimality of the operating rules was addressed. In 2011 the countries agreed to jointly investigate these rules from a total system perspective with the view to ensure optimality of water supply to South Africa whilst considering Lesotho's energy security. It was envisaged that these investigations would include compensatory measures to Lesotho, such as providing additional power from South Africa. With common-place load-shedding at the time, Lesotho may have felt nervous about assurances of electricity from South Africa. However, conditions have substantially ameliorated since then. Yet after eight years since 2011 little progress has been made; modalities for improving the operation of the LHWP are not yet in place – therefore the wastage of water as so evident currently. A golden opportunity exists for Lesotho and South Africa, already inextricably linked socially and economically, to demonstrate their willingness to deepen cooperation by urgently addressing the wasteful operation of the LHWP – not only for the sake of Gauteng's water security but also for the wider regional benefit.

Article 7 of the agreement on LHWP II determines that: “the parties shall within twelve months agree on the operating rule for the operation of phase 2” (LHDA, 2011). Although that 12 months has long since passed the research for this report indicated that the operating rule for LHWP II has not been finalised. This means Dr Van Niekerk is right that the opportunity is still there to amend the final operating rules.

6.2.3. Lesotho water for Botswana

That the water crisis can only be expected to worsen is clear when considering an article in *Infrastructure News* (Frankson, 2016) which indicates that Botswana had all but secured an agreement with Lesotho and South Africa to utilise waste from the LHWP, with this development expected to worsen the impact of project delays presently being encountered.

Botswana has finalised a deal with South Africa and Lesotho to tap some of the water from the Lesotho Highlands Water Project.

According to a report by the Africa News Agency Botswana's Minister of Mineral, Energy and Water Resources Minister, Onkodame Kitso Mokaila confirmed this at a conference in Gaborone on the diamond industry. Mokaila said that one of the constraints on diversification and beneficiation of the economy with new industry was the country's water shortage. He described various projects which were being explored or undertaken to address the problem, including tapping water from the Zambezi River. And another was the three-nation deal to tap into the Lesotho Highlands Water Project which is a joint venture between Lesotho and South Africa through which Lesotho sells excess water to South Africa.

Mokaila stressed that the agreement was a “done deal” and it was now just a matter of drawing up a plan and a design to implement the agreement. A pre-feasibility study was now being conducted. He said that all three countries were part of the Orange River system “and so we all decided to work together”. Asked how soon Botswana would tap the water, he said

“as soon as possible” was the message which the three governments involved had told their officials who met last week to negotiate the deal. The next steps were to come together to draw up a plan and design, and look at the impact on the communities along the route, and the environmental impact. “So that’s as fast as we can move, making sure all that is done.”

It is alarming to note that the feasibility studies for this project seem to be running ahead. Latest developments are that proposals were invited in August 2019 by the African Development Bank (AfDB) for individual consultants to review the feasibility studies for this project called the Lesotho-Botswana Water Transfer Multipurpose Trans boundary (LBWT) Project (AfDB, 2019).

The notice issued by the AfDB reads as follows:

- *The Orange-Senqu River Commission (ORASECOM) received financing from the African Development Bank (AfDB) towards the cost of the Preparation of a Climate Resilient Water Resources Investment Strategy & Plan and multipurpose Project for the Orange-Senqu River Basin, and intends to apply part of the agreed amount for this Grant to payments under the contract for the preparation and/or undertaking of Feasibility Studies for the Lesotho-Botswana Water Transfer Multipurpose Trans boundary (LBWT) Project.*
- *The services under this call for Expressions of Interest (Eoi) are for Individual Consultants to constitute a Panel of Experts to support ORASECOM in the review of deliverables from the combined Pre-feasibility and Feasibility Studies for the Multi-purpose Trans boundary Water Project, the Lesotho-Botswana Water Transfer (LBWT) Project that intends to convey about 36 million m³ of water through a pipeline of about 712km from a new dam to be constructed on Makhaleng River in Lesotho to Lobatse in Botswana.*

If properly conducted these feasibility studies should have addressed at least the following relevant areas:

- The international right of Botswana to water from the Orange-Senqu basin as the Molopo River flowing from Botswana makes no contribution to run-off in the Orange River.
- Alternatives available to Botswana such as the Zambezi and Limpopo rivers.
- Apportionment of costs and benefits.
- Public participation process as the public of South Africa and especially current users from the Orange River are not aware of this project.

6.2.4. PMU without delegations to manage as required

As discussed above in section 6.4 the Project Management Unit (PMU) is crucial in the successful execution of LHWP II. According to the Agreement of 2011 the PMU will *“oversee and manage the implementation of Phase II”* but in order to be able to do its job properly this PMU must have the necessary powers assigned to it. The Agreement places an obligation on the commission to *“delegate to it the powers necessary for this purpose”* (LHDA, 2011).

Unfortunately, it appears as if the necessary powers have not been delegated yet to the PMU. This is reason for serious concern as such a mega project needs decision powers right on site. This is a pity as the PMU has *“extensive expertise in managing the implementation of large water transfer schemes involving dams and tunnels and the associated infrastructure”* (LHDA, 2015).

An expensive lesson should be learned from the execution of mega infrastructure projects such as the construction of Kusile and Medupi power stations by Eskom that poor project management can lead to delays in delivery and heavy cost overruns. A weak PMU or a PMU without delegated powers will be exploited by large international contractor companies to the detriment of the client – in this case the Department of Water and ultimately the Gauteng consumer and the South African taxpayer.

6.2.5. Cost escalation expected due to delays

In the feasibility reports the cost of the project was estimated as R17.372 billion (cost as at December 2011 and no escalation applied). At the annual tariff consultation undertaken in August 2016 for major water users of the Vaal System the TCTA used an **estimated capital cost of R25.1 billion for LHWP II** but clearly stated that the actual costs would only be known once the construction tenders had been awarded (TCTA, 2016).

Implementation delays will make the project even more expensive – and eventually cost water users and taxpayers much more. Cost overruns can become a heavy burden on consumers in Gauteng and make the water from LHWP II unaffordable. In a similar pattern as was seen in the case of Eskom’s Medupi and Kusile power stations, the cost of such mega projects can escalate out of control unless very tight project management is in place at all times.

The lack of an independent water and economic regulator for water pricing in South Africa means that unlike electricity where NERSA is doing its best to contain electricity prices it remains unclear how the LHWP II tariffs will be controlled and regulated.

6.2.6. Higher royalty payments due from 2019 and no benefit to SA

The concept of South Africa paying a royalty to Lesotho was developed as the most convenient method for this project and documented by a complex set of formulae and financial models documented in Protocol I to the bilateral Treaty, which itself took many years of negotiations to conclude. In terms of Article 12 of the Treaty (Treaty, 1986) South Africa undertakes to share with Lesotho, by way of royalty payments, the benefits of the LHWP.

“The net benefit has been computed in accordance with the procedure set out in the Royalty Manual on the basis of 56% on the part of Lesotho and 44% on the part of RSA. (AHK, unknown)” ... “The net benefit can in simplified terms be described as the difference between the cost, at its Present Value, of least cost estimate (Lesotho Highland Water Project) and the cost, at its Present Value, of the alternative or second least cost estimate water project with delivery capacity of 70m3 (Orange Vaal Transfer Scheme (OVTS))” (AHK, unknown).

In South Africa, the project is funded by charging a levy to water users in the Gauteng region. *“In Lesotho, the country’s natural water resource is now referred to as ‘liquid or white gold’. Under the Treaty the royalties consist of fixed and variable components. These are paid monthly and will go on until the Lesotho share of benefit has been fully paid” (AHK, unknown).* This is in addition to paying for the construction and on-going maintenance and operation of all structures required to facilitate the delivery of water including those in Lesotho.

Article 7 (3) of the Agreement (LHDA, 2011) stipulates:

Royalty payments shall be calculated in accordance with Article 12 of the Treaty, but where the actual water deliveries are less than those stipulated in Annexure V to this Agreement, the quantities stipulated in Annexure V shall be used for the calculations.

Table 2 below, “Minimum quantities of water for the payment of royalties”, is an abstract of the volumes provided for the years 2016 to 2025 in Annexure V of the Agreement of 2011 (LHDA, 2011).

It is clear from this table that the minimum royalty payments will start to increase from 2019 which will have the implication that even though the LHWP will be unable to deliver more water to SA the Lesotho Government can claim higher royalty payments. South Africa may therefore be forced by the Agreement of 2011 to pay higher royalty payments for six to seven years without enjoying the benefit of such additional costs.

Table 2: Minimum quantities for payment of royalties

Minimum quantities for payment of royalties (Abstract from table in Annexure V of the Agreement 2011)	
Year	Minimum quantity (million cubic metres of water per year)
2006 to 2018	780
2019	899
2020	913
2021	927
2022	941
2023	954
2024	968
2025	982
2026	996
2027 to 2044	1010 up to 1245 by 2044

6.2.7. The elephant in the room – a Department of Water without technical capacity at top management level

When LHWP I was implemented South Africa had a Department of Water with technical capacity. That has since been eroded. It is alleged that there are no professional engineers in the top structure of the Department of Water where strategic decisions are made. This leaves the department responsible for water security in arid South Africa and in charge of existing infrastructure worth billions of rand plus new infrastructure projects worth another R30 billion or so without any professional engineers in its top management structure.

6.3. Recommendations

6.3.1. The Minister of Water must comply with South African legislation and appoint experienced professional engineers in the Department of Water's top management structure

The Minister of Water and Sanitation is the public trustee of the nation's water resources (in terms of article 3(1) of the National Water Act (Act 36 of 1998) (RSA, 1998) she *"must ensure that water is protected, used, developed, conserved, managed and controlled in a sustainable and equitable manner, for the benefit of all persons and in accordance with its constitutional mandate"*.

The Minister must ensure that augmentation projects like LHWP II are implemented on time, effectively and to the benefit of all the people of Gauteng.

This is in line with what Professor Mike Muller said in 2016 at the South African Institution of Civil Engineering SAICE conference (Creamer, 2016): *"I venture to say, because we keep changing Ministers, I don't think the Ministers actually even understand what needs to be done."* He urged that Ministers be challenged to explain why they were taking so long. *"Ask them to explain why the Lesotho government has asked South African parliamentarians to come and discuss the delays, which I believe has just happened,"* Muller said, adding that he found it interesting that Lesotho should have to *"very politely"* call the South African government to account for the delays.

6.3.2. Honour the Treaty, Protocol VI and Agreement for LHWP II

The Treaty as amended with Protocols I to VI are well thought through and sound documents based on international best practice for projects of this size and complexity. All the hard lessons learned during Phase I have been incorporated in these binding bi-national agreements. The governments and the Ministers and their delegated officials now have the responsibility to honour the detail of these agreements.

6.3.3. Utilise the expertise and skills of the Project Management Unit

The Project Management Unit (PMU) is an institution specified by the Agreement (LHDA, 2011) and as was discussed in section 6.1.5 above there is a PMU in place that is staffed by professionals *"with experience in the construction and implementation of large water resource and hydropower projects"* and the PMU was *"competitively procured through an open tendering process"*.

In conclusion it can be stated that the LHDA is in the fortunate position to have a powerful resource available in the form of a PMU. The PMU must therefore be used and acknowledged as stipulated in the Agreement. Article 2 (a) rules that the PMU is tasked to *"oversee and manage the implementation of phase II and (the LHDA) shall delegate to it the powers necessary for this purpose"* (LHDA, 2011). A capable PMU will however be of no real value if the PMU is underutilised or even worse totally bypassed through political or corrupt efforts.

6.3.4. Change the operating rules to improve water security for South Africa

The current operating rules for Katse Dam (based on those for LHWP I) is far from optimal and increase the water risk for Gauteng. Research for this report indicated that the operating rule for Phase 2 has not been finalised. This means the opportunity is still there to amend the final operating rules for Phase 2.

6.3.5. Civil Society participation in the Vaal River Reconciliation Strategy Steering Committee

The size of the Vaal River System, the various inter-basin transfers coupled with the extensive bulk water distribution infrastructure and the geographical location of the water users in relation to the position of the water resource components provides for a complex mix of variables that influences both the demand and availability.

The Large Bulk Water Supply Reconciliation Strategy (LBWSRS) for the Vaal River System (RSA, 2009) recommended five strategies to ensure that sufficient water is available to supply the future water requirements in the supply area of the Vaal River System. These included: the eradication of the unlawful water use; water conservation and water demand management measures to flatten the water-use curve; re-use of mine-water effluent in combination with other interventions; and, lastly, the establishment of a Strategy Steering Committee (SSC) to monitor the implementation of the recommendations of the strategy. Unfortunately, it seems that no appetite existed in the previous administration to include OUTA on this SSC even after the organisation issued a formal letter asking to be included on this Committee.

6.3.6. Challenge the planned project to sell Lesotho water to Botswana

It is alarming to note that the feasibility studies for this project seem to be running ahead. Latest developments are that proposals were invited in August 2019 by the African Development Bank (AfDB) for individual consultants to review the feasibility studies for this project called the Lesotho-Botswana Water Transfer Multipurpose Trans boundary (LBWT) Project (AfDB, 2019).

6.4. Concluding Note

The essentials of the bi-national agreements between Lesotho and South Africa stand firm, if followed, as a very solid foundation for the implementation of LHWP II. The scope and complexity of such a mega water project remains enormous as well as the subsequent impact, either positive or negative. On the one hand it could ensure sufficient water resources to sustain economic and social growth in Gauteng as well as benefit Lesotho's economy and tourism. On the other hand, if not executed properly and effectively it could be marred with court cases, cost overruns and become another financial burden on cash-strapped consumers. The current uncertainty regarding the role of the PMU is of real concern and must be addressed urgently. The effective and efficient project management during construction will be key to ensuring the infrastructure is delivered on time and within budget. The long-term operation of the LHWP as an integral part of the Vaal River System is equally important. If operated sub-optimally, water security will remain a risk. The real elephant in the room is a Department of Water that has substantially weakened as a technical department since the implementation of LHWP I. This must set alarm bells ringing.

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